

REMARKS

Claims 1-6 are pending in the present application. Claim 1 has been amended by way of the present amendment. Reconsideration is respectfully requested.

In the outstanding Office Action, claims 1-4 and 6 were rejected under 35 U.S.C. Section 102(b) as being anticipated by German Patent No. DE19956830 (Gottlieb et al.); and claim 5 has been rejected 35 U.S.C. Section 103(a) over Gottlieb et al. in view of U.S. Patent No. 4,583,687 (Gaskell). Reconsideration is respectfully requested.

35 U.S.C. Section 102 Rejections

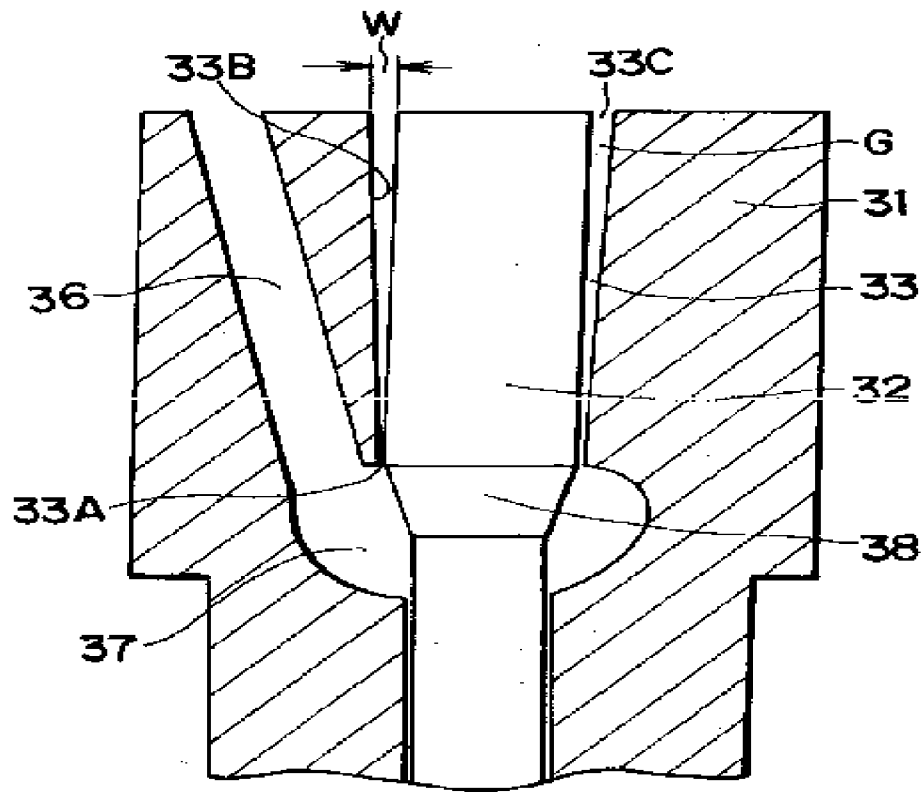
Claims 1-4 and 6 were rejected under 35 U.S.C. Section 102(b) as being anticipated by Gottlieb et al. Reconsideration is respectfully requested.

Claim 1 has been amended to clarify the invention. In particular, claim 1 has been amended to recite:

wherein an oil pool for storing a high-pressure fuel is formed at one end of the guide hole, and at least part of a gap formed between the nozzle needle and the guide hole has a tapered shape that widens toward the nozzle holder from the one end of the guide hole to an opposite end of the guide hole,
whereby a solidified matter in the oil pool is discharged through the tapered shape gap to a lower-pressure portion of the nozzle holder.

Support for the amendment is provided by the original specification, figures and claims. In particular, **FIG. 2** below and the specification discloses an oil pool **37** that stores the high-pressure fuel introduced thereto from a passage **26** via a passage **36** is formed inside the nozzle body **31**. In addition, the specification discloses the oil pool **37** to the guide hole **33** is deposited

FIG.2



and solidifies when the fuel injection valve 1 is operating at a low temperature, and that the solidified matter can easily be moved in the direction of the other end portion 33C of the gap G (in the direction of the nozzle holder 2) and discharged to the low-pressure portion of the nozzle holder 2.

Gottlieb et al. discloses a leadthrough that has a transfer element (2) movably guided in a housing (1) whereby a sealing gap (6) between the housing and the transfer element connects a high pressure chamber (5) and a low pressure chamber (7) together. At least one axially extended hollow chamber (H) that extends at least partly over a length (L) of the seal gap is either

connected fluidically to the high pressure chamber or low pressure chamber to reduce an increase in the width (b) of the seal gap by radial expansion of the hollow chamber dependent on a pressure difference between the hollow chamber and the seal gap.

However, Gottlieb et al. does not disclose, as amended claim 1, recites:

wherein an oil pool for storing a high-pressure fuel is formed at one end of the guide hole, and at least part of a gap formed between the nozzle needle and the guide hole has a tapered shape that widens toward the nozzle holder from the one end of the guide hole to an opposite end of the guide hole, whereby a solidified matter in the oil pool is discharged through the tapered shape gap to a lower-pressure portion of the nozzle holder (emphasis added).

That is, Gottlieb et al. nowhere discloses: “a solidified matter in the oil pool is discharged through the tapered shape gap to a lower-pressure portion of the nozzle holder” and thus, does not disclose each and every limitation of the invention. Thus, it is respectfully submitted that Gottlieb et al. does not disclose, anticipate or inherently teach the claimed invention and that claim 1 and claims dependent thereon, patentably distinguish thereover.

35 U.S.C. Section 103 Rejections

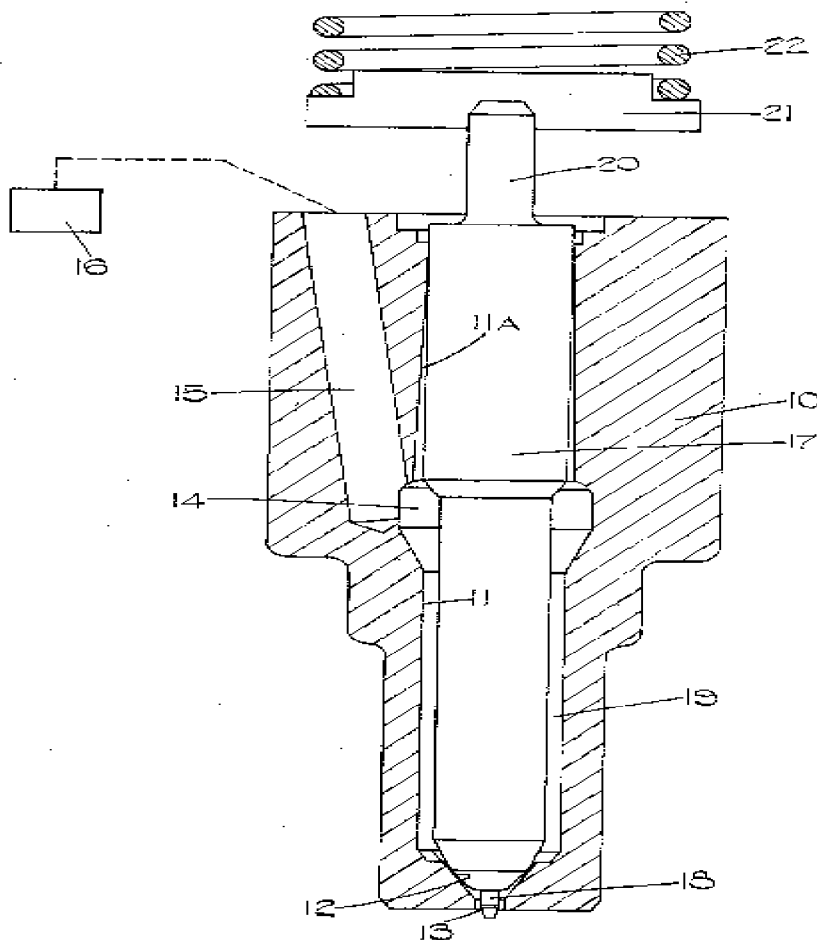
Claim 5 has been rejected 35 U.S.C. Section 103(a) over Gottlieb et al. in view of Gaskell. Reconsideration is respectfully requested.

Claim 5 is ultimately dependent upon claim 1. As discussed above, claim 1 is not disclosed by Gottlieb et al. Thus, at least for those same reasons, Gottlieb et al. also does not disclose the limitations of claim 5.

In addition, the outstanding Office Action acknowledges other deficiencies in Gottlieb et al. at page 3, paragraph 5 regarding the “tapered guide hole” recited in claim 5 and attempts to overcome this deficiency by combining Gaskell and Gottlieb et al. However, Gaskell cannot overcome all of the deficiencies of Gottlieb et al., as discussed above.

Gaskell discloses a fuel injection nozzle that has a valve member which is axially movable within a bore in a nozzle body. In particular, as shown in the figure below, Gaskell

discloses the deposit of carbon can build up to the extent that the operation of the nozzle is impaired. In order to minimize the tendency for carbon deposit to form, the portion of the bore



11 which lies between the enlargement **14** and the wider end of the body and which is referenced **11A**, together with the portion of the valve member **17** within that portion of the bore, are shaped to permit sideways movement of the extension **18** within the opening **13**. It is found that this substantially reduces the risk of carbon deposit being formed on those parts. The sideways movement of the valve member is achieved by arranging that the portion **11A** of the bore tapers inwardly from the enlargement **14**. The associated portion of the valve member **17** is of right cylindrical form and this means that in use, the valve member will tend to rock about the end portion of the bore **11A** removed from the enlargement **14**.

However, Gaskell does not disclose, as amended claim 1, recites:

wherein an oil pool for storing a high-pressure fuel is formed at one end of the guide hole, and at least part of a gap formed between the nozzle needle and the guide hole has a tapered shape that widens toward the nozzle holder from the one end of the guide hole to an opposite end of the guide hole, whereby a solidified matter in the oil pool is discharged through the tapered shape gap to a lower-pressure portion of the nozzle holder (emphasis added).

That is, Gaskell cannot make up for all of the deficiencies in Gottlieb et al. Therefore, it is respectfully submitted that neither Gottlieb et al. nor Gaskell, whether taken alone or in combination, do not disclose, suggest or make obvious the claimed invention and that claim 5 and claims dependent thereon, patentably distinguish thereover.

Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20696-00094-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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